TO: Sunset Beach Town Council

FROM: Environmental Resource Committee of Sunset Beach

RE: Recommendation Pertaining to the Proposed Shoreline Dredging Project

Date: 1/4/2017

The Environmental Resource Committee (ERC) has performed extensive research on the proposed Shoreline Dredging Project and has discussed the project with several academic scientists who have expertise in shoreline management who have no financial interest in the proposed dredging project. We have also compared the proposed dredging project to other dredging projects along the North Carolina coast. Furthermore, we have discussed the project with boat owners and concerned citizens. **Our first recommendation is for the Council to allow the dredging of the feeder and finger canals along with Mary's and Turtle Creeks. Since this dredging is maintenance dredging, it will ensure property owners with boats will have access to Jinks Creek and the Intracoastal Waterway (ICW). Our second recommendation is to delay dredging of Jinks Creek until the following questions can be addressed and resolved at the next scoping meeting.**

1. **If Jinks Creek is to be dredged should a new primary nursery area study be performed?** Dredging is not permitted in primary nursery areas (PNA). The areas surrounding North Jinks Creek on both sides have been designated as PNAs. Jinks Creek has been designated as a non-PNA. However, the study to designate it as a non-PNA was performed in the 1970s. A lot can change in 50 years! Secondly, one of the scientists who participated in this study verbally informed Richard Hilderman that in his opinion the study was not adequate because it wasn't sufficiently funded for the scientists to obtain a sufficient number of samples to make the study statistically valid. **The ERC recommends prior to submitting a permit for the dredging of Jinks Creek the 1970s report needs to be reviewed. A new PNA study may be needed prior to dredging Jinks Creek.**

2. **If Jinks Creek is to be dredged should an environmental impact study (EIS) be performed?** The faculty at the Study of Developed Shoreline at Western Carolina University reviewed our 45 minute power point presentation (Attachment I). Their conclusions are: "we agree with the contention that it is reasonable to support (not vigorously challenge) ongoing maintenance dredging of previously dredged channels (assuming best management practices and all permits are obtained), but advise against dredging previously undredged channels-such as N. Jinks Creek-due to the potential for significant environmental impacts; even in consideration of the limited economic/recreational benefits that might result." "Regarding Jinks Creek: We concur with the statement that the North End and South End have different dynamic and should be viewed as discrete dredging areas/projects, although the position that it is reasonable to consider the South End of Jinks Creek for dredging is not supported by

any data/evidence. We assume this position is based on the fact that the south Jinks Creek is heavily influenced by Tubbs Inlet and that, as a result, it is highly dynamic and less susceptible to the impacts of dredging. While this may, in fact, be the case, it is important to understand that the removal of sediment from any marine ecosystem will result in some kind of impact. It is also unclear whether the southern end of Jinks Creek has been previously dredged. If it has, we agree that it is reasonable to consider the South End of Jinks Creek for dredging. If not, the degree and extent of initial dredging, along with the potential demand (need) for future maintenance dredging, must be considered when deciding whether to artificially-and permanently-alter this location."

Jan Harris and Richard Hilderman had a phone conference call pertaining to the dredging of Jinks Creek with Dr. Paul Gayes, Director for Marine and Wetland Studies, Coastal Carolina University (Attachment II). Dr. Gayes is worried that the dredging of Jinks Creek will have a negative impact on the houses on the west end of Ocean Isle Beach (OIB). He said inlets typically wag back and forth but that is not the case with Tubbs Inlet. Tubbs Inlet pressure and channel has for decades consistently been moving eastwards towards the west end of OIB. Dredging Jinks Creek deeper would increase water velocity but would not change the channel (Tubbs Inlet channel). He believes the channel will continue on an eastward path closer to OIB and will put more pressure on the west end of OIB. However, he also feels a hurricane could change the water dynamics such that the channel could cut through the spit of sand now called Palm Cove on the east end of Sunset Beach.

Since the two groups of scientists raise concerns about the impact dredging of Jinks Creek will have on the environment in addition to potential increase in erosion on both the west end of OIB and Palm Coves, the ERC recommends that dredging of Jinks Creek be delayed until an EIS is performed.

3. **If Jinks Creek is to be dredged should a shellfish map be performed?** North Jinks Creek has a high density of oyster beds. CAMA regulations states that dredged channels must be aligned to avoid shellfish beds (Attachment III)**. The ERC recommends that a shellfish map needs to be performed prior to approval of any dredging permit for Jinks Creek.**

4. **If Jinks Creek is to be dredged should the navigational channel follow the natural channel created by Mother Nature?** According to Moffatt and Nichols the dredging of

Jinks Creek will be in the middle of the channel at a depth of 6 feet below mean low water. Since Jinks Creek has two 90 degree bends, this raises two questions?

a. **Knowing the channel is deepest at the outer edge of each of the 90 degree bends in Jinks Creek, shouldn't the dredging take place at the outer edge of each bend and not in the center of the channel. Dredging the navigational channel in the middle of Jinks Creek will go against Mother Nature and the middle of the creek will fill in with sand faster than the natural channel. This will increase the frequency of maintenance dredging and thus the cost**.
b. CAMA regulations state that dredging a navigational channel can't be deeper than the original depth of the creek (Attachment III). **Has Jinks Creek ever been at a navigable depth of 6 feet below mean low tide water?**

The ERC recommends that the dredged navigational channel follows the natural channel created by Mother Nature. The committee also recommends the depth of the natural channel be determined prior to approval of a permit to dredge Jinks Creek.

5. **How is it possible to restore a marsh area that is already a protected PNA which only occur in healthy salt water marshes?** Moffatt and Nichol's November 12, 2016 Public Meeting update states: (page 13) "beach compatible material exists above-5 MLW in a portion of Jinks Creek. Separating the non-compatible material may be cumbersome and add additional costs. The material may be a viable source of material for a marsh restoration initiative".

   On page 23 of the November 12th update, Moffat and Nichols identify two potential marsh restoration sites. One site is the Big Narrows which is located adjacent to the Sunset Beach Causeway that connects the island to the mainland and is a regularly flooded wetland. CAMA regulations state that under no circumstances shall dredged material be placed on regularly flooded wetlands (Attachment III). The second site Moffat and Nichols propose to deposit the dredging spoils is depicted in the area called "Jinks Creek" on the northern or mainland side of the ICW. This area has been identified as a PNA.

   The ERC recommendations that the spoils generated from the proposed dredging project should not be placed in the two sites proposed by Moffat and Nichols. The committee also recommends that Moffat and Nichols come up with alternative proposals for the spoils.